

ABSTRACT

Methods are provided for enhancing capacity of impaired bone marrow cells to promote angiogenesis when introduced into an ischemic site in a patient by transfecting early attaching cells derived from bone marrow in culture with an angiogenesis promoting transgene. Methods are also provided for utilizing such early attaching cells derived from autologous bone marrow, or media derived from these cells while the cells are grown in culture (which need not be from autologous cells) to deliver angiogenesis-promoting transgenes or proteins to a patient. The transfected early attaching cells, or media derived from these cells while the cells are grown in culture, are introduced into an ischemic tissue, such as the heart, to enhance formation of collateral blood vessels. The cells or media can also be injected into the blood stream (artery supplying the ischemic tissue, or any other artery or vein)